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PHOTOGRAPHIC INTERPRETATION REPORT



GAINFUL SURFACE-TO-AIR MISSILE
MOSKVA PARADE
7 NOVEMBER 1967

Declass Review by NIMA/DOD

NPIC/R-9/68
JANUARY 1968

GROUP 1 EXCLUDED FROM
AUTOMATIC DOWNGRADING
AND DECLASSIFICATION

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PREFACE

This report presents a preliminary mensural analysis and line drawings of the various components of the new track-mounted surface-to-air missiles, designated GAINFUL, observed in the 7 November 1967 Moskva 50th anniversary parade.

The mensural data contained in this report was obtained through an analytical solution utilizing the Moskva metrical trap photography through computerized programs. Width measurements of the missiles and transporter-launcher are accurate [redacted]. Angular measurements are approximate. All other measurements are accurate within [redacted] whichever is greater. The reader is cautioned that, while in many instances dimensions are carried to one-hundredth part of a foot, the degree of accuracy may not be that reliable. The reader is further cautioned that the graphics presented with the accompanying mensural data are not intended to be used for detailed engineering analysis.

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[] photography acquired in Moskva on 7 November 1967 revealed 4 tracked transporter-launchers, each with 3 new-type surface-to-air missiles. Numerical designators of the 12 missiles are: 1687804, 1632811, 1669505, 1662714, 1675416, 1653909, 1650912, 1678502, 1698406, 1664807, 1659410, and 1657815.

Each of the 3 missiles appears to be single stage, with 2 sets of 4 sweptback cruciform fins and 4 pod-like protrusions. The overall length of the missile is 18.52 feet; the overall length of the missile-mounted transporter-launcher unit is 22.10 feet and the maximum width is 9.51 feet.

The forward and aft sets of 4 fins are inline and connected at 90 degrees to the missile body. The forward control fins are connected to the missile by control-fin pivots. The rear fins are fixed, but incorporate aileron control surfaces. Each of the 4 forward fins has a maximum length of 1.35 feet, tapers to a length of .67 feet, and has a raked tip. A probe measuring .75 feet is located on the leading edge of each forward fin. Each of the 4 aft fins has a maximum length of 1.03 feet and tapers to .39 feet.

Four cylindrical pod-like protrusions are equispaced around the missile body, interdigital to the forward control fins. The forward section of all 4 pods begins 7.58 feet aft of the nose of the missile. The blunt, conical, forward section terminates in a short cylindrical section, approximately 4 inches in diameter, possibly housing antennas providing semiactive radar or infrared homing guidance. Two opposite pods extend 5.73 feet to the rear, while the other 2 extend 10.66 feet to the rear.

The transporter-launcher is a tracked vehicle 20.26 feet long and 9.51 feet wide. It is a modification of the ZSU-23/4 self-propelled automatic AA gun chassis. Unlike any other Soviet tracked transporter-launcher which carries missiles, the aft end of the GAINFUL missile is positioned at the front of the transporter-launcher, rather than the rear.

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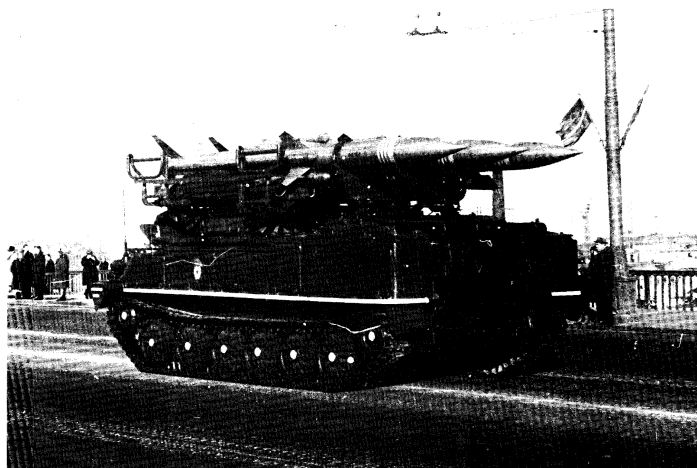
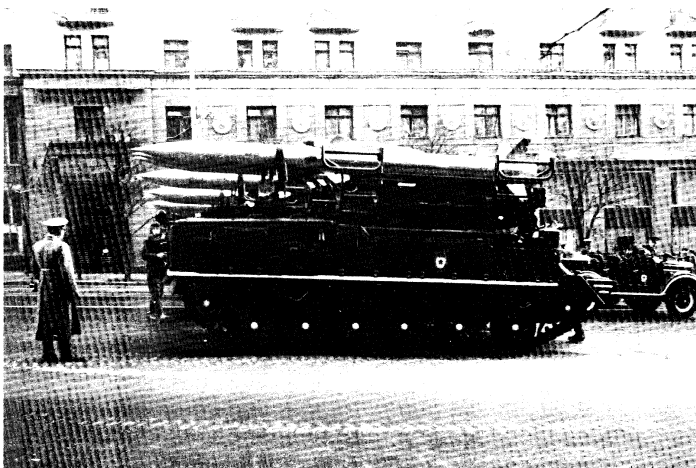
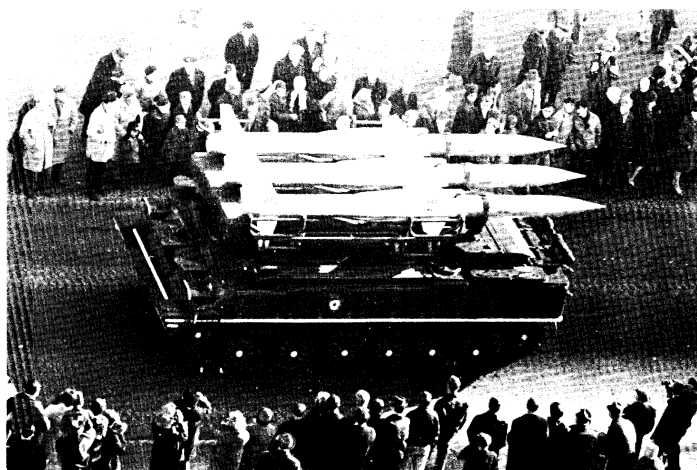
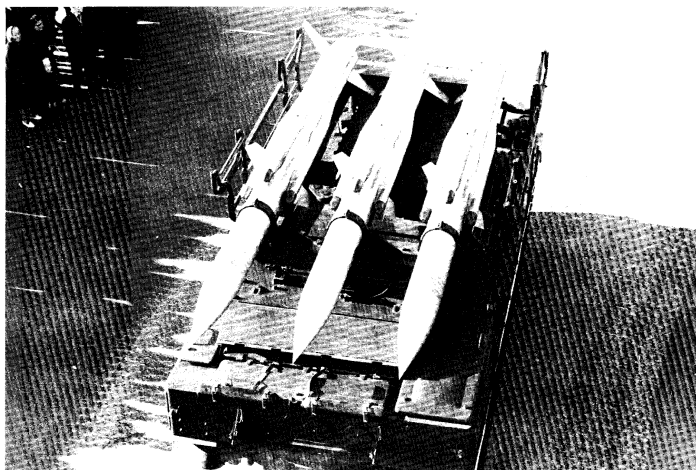
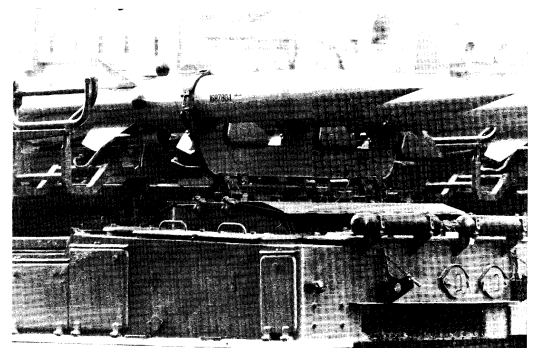
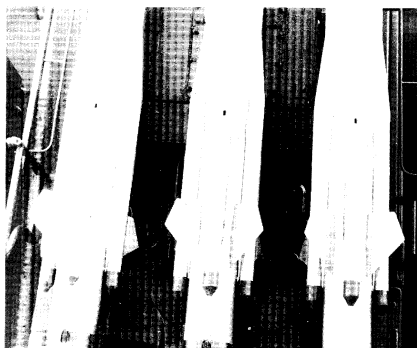
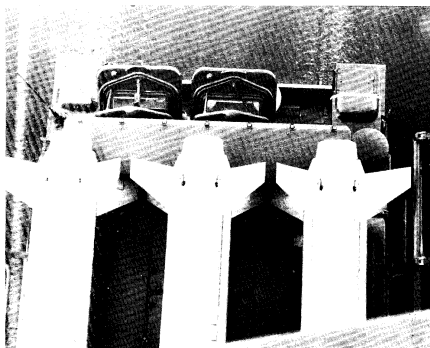
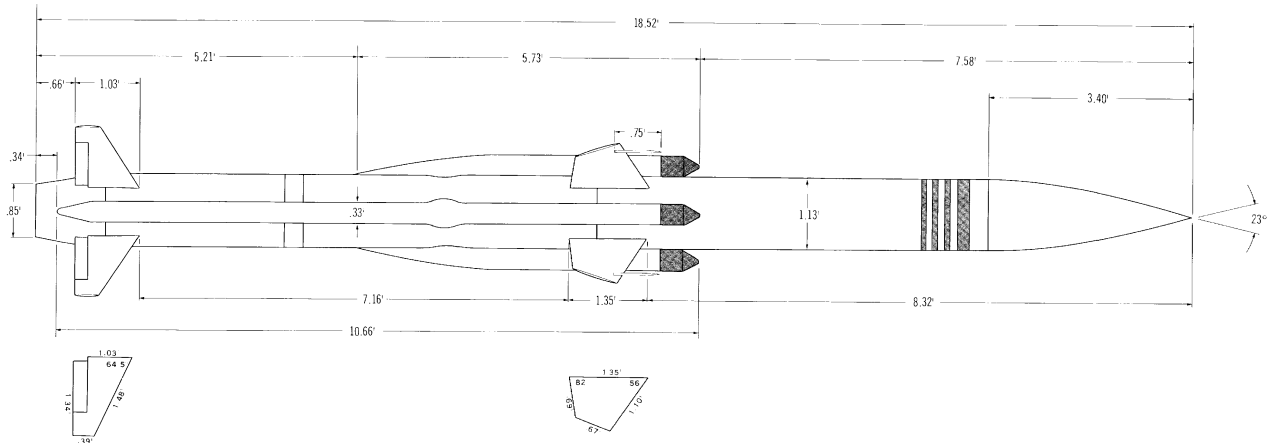


FIGURE 1. GAINFUL MISSILES, AS VIEWED IN 7 NOVEMBER 1967 MOSKVA PARADE.

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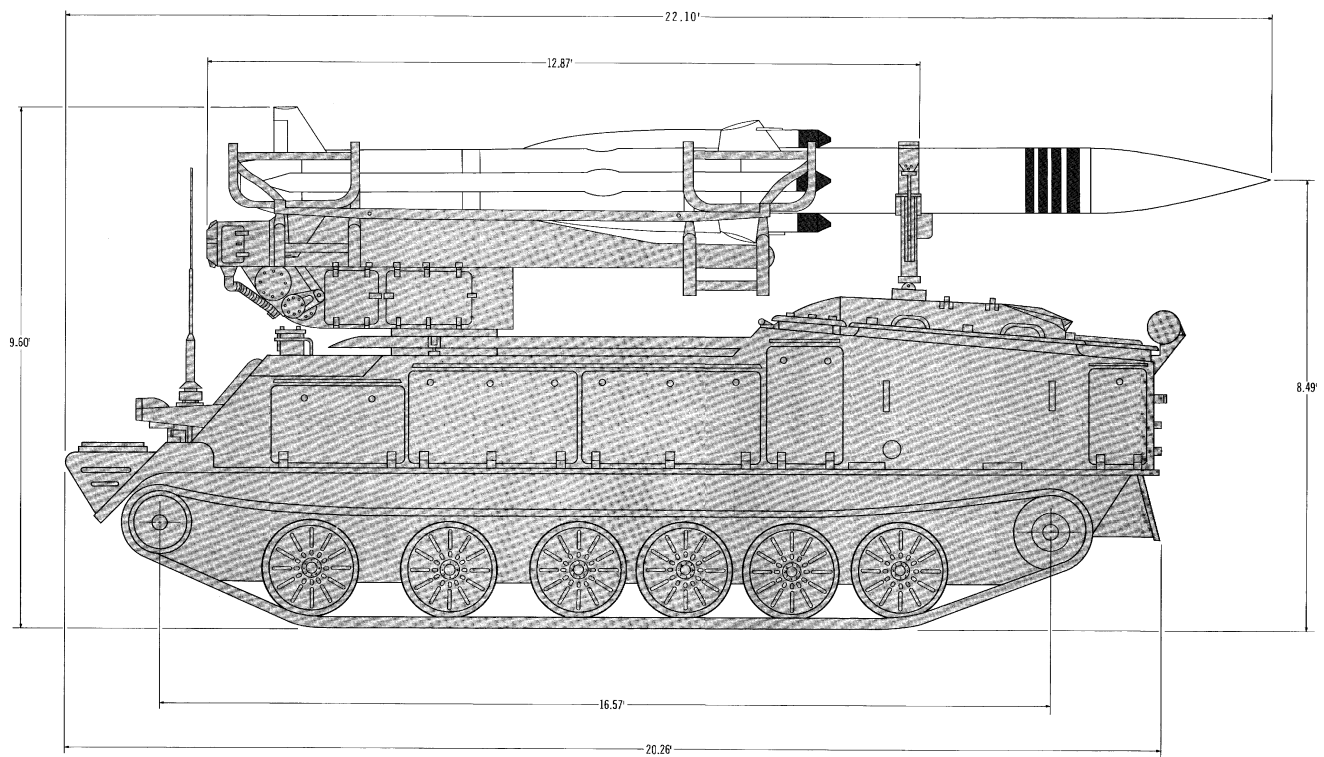


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FIGURE 2. DETAILS OF GAINFUL MISSILE.

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FIGURE 3. GAINFUL MISSILES MOUNTED ON TRANSPORTER-LAUNCHER.

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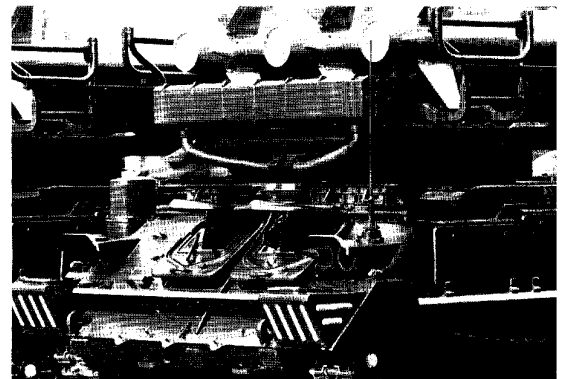
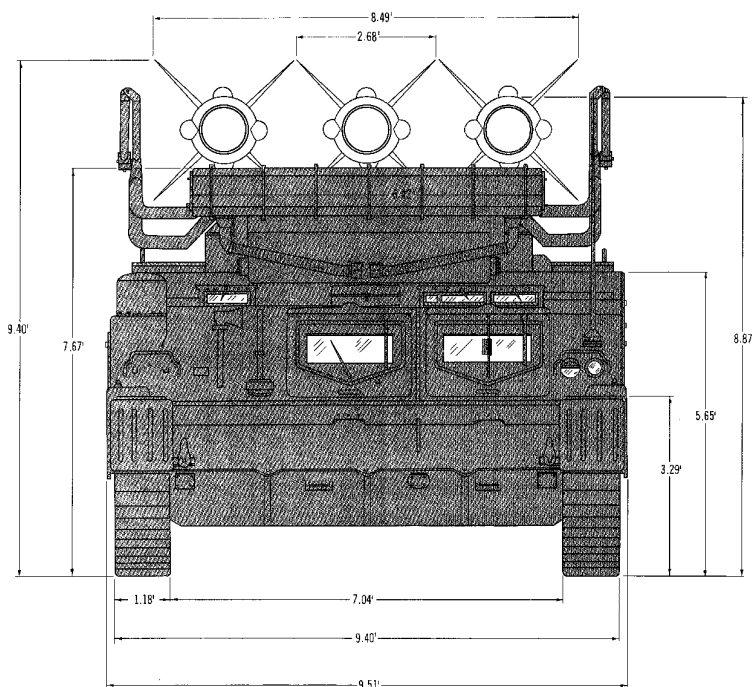
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FIGURE 4. FRONT VIEW OF TRANSPORTER-LAUNCHER.

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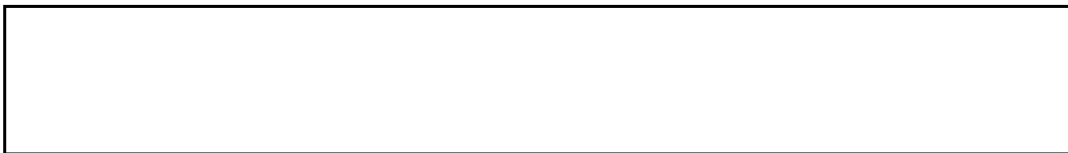
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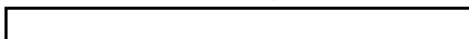
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